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Examiners' Report

June 2017

GCSE Design and Technology Textile
Technology 5TT02 01

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Introduction

The format for this paper remained the same as the previous year. The layout of the paper seems to be one with which the candidates and teachers are now familiar. The multiple choice section at the beginning is very popular with very few boxes left blank. The more traditional design section has been approached in a much more logical and selective manner by most with a reduction in wordy notes and an improvement of more focused annotation, often involving the speciation numbers to connect these together.

Towards the end of the paper are extended questions that test the candidates' 'quality of written communication' as well as their knowledge and understanding. Again these have been approached in a more sequential way that shows that centres have read and passed on the examiner's information and are sharing good practice with candidates. This is to be applauded.

The paper's range of short and longer answer type questions (for example, through naming, discussion, description, justifications or explanations) helped candidates to demonstrate their abilities across a range of issues, enabling them to progress to deeper analyses when called for.

Question 11 (a) (i)

The questioning of the names and uses of familiar or common equipment and components allowed candidates to demonstrate their span of knowledge and understanding of these workroom items. The positive results from this section showed that good practice is being carried out in many centres to acquaint candidates with these items, in order to equip candidates with the skills and knowledge necessary to gain marks.

This question based on the ironing board was well answered by a substantial number of the cohort. Responses ranged from the ability to provide a heat proof or stable surface to press against and to provide a surface to lay fabric flat against in order for them to be ironed. Candidates who were more successful demonstrated a clear understanding of the use of the ironing board as a piece of equipment in isolation to any other connected to it. This independent thought meant that they focused on the ironing board and did not describe the use of the iron solely which often led others away from the item in question.

Components/Equipment	Name	Use
	Ironing board	used as a heat proof surface to iron garments or fabric on

(1)



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Examiner Comments

This candidate's ability to describe a technical element such as 'heat proof' does give a substantial insight into their knowledge. Other such insights were seen from those that mentioned the use of the board as a stable surface with which to press against whilst using an iron for 'pleating' or 'fusing'. Those that were less successful described it as being something used 'to get creases out' or 'to iron' which gained them a 0 mark



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Examiner Tip

Always describe the application / performance of the object given before linking it to others that it is used in conjunction with.

Question 11 (b) (i)

This question required candidates to be able consider the reasons why calico is a good choice for a prototype. Many lower ability candidates spent their time explaining what a prototype is and focused on the costume or toile, not gauging the need to explain the fabric's specific suitability for a prototype.

Candidates seemed to know the properties of cotton and could relate that to calico. However to gain full marks the question required them to give one reason. i.e. the cheapness of the calico for the theatrical company. The understanding that the prototype was not going to be worn on stage as the final product was missed by some candidates.

(b) A theatrical company is designing costumes for a performance. Calico is a cheap fabric that can be used for a prototype.

(i) Explain **one** reason, other than being cheap, why calico was used for the prototype.

(2)

Calico is also a hardwearing fabric. Therefore, the prototype can be handled many times and in different ways and not be ruined.



ResultsPlus Examiner Comments

This candidate was able to give a reason with a clearly linked justification in order to gain the full 2 marks available. The property of the fabric is known as 'hardwearing' in addition to the benefit it brings as a material suitable to use for a prototype. Responses which reflected the clear link to the benefits of calico as a fabric, as in 'easy to work with', were not always preceded or followed up with the reason why the fabric has that benefit. For that reason, many candidates only gained 1 mark.



ResultsPlus Examiner Tip

Be specific with the link to the situation stated and the requirements of the fabric in that given context.

Question 11 (b) (ii)

Whereas calico seemed to be a well-known fabric the characteristics and properties of muslin were not so widely recognised by candidates. Those that had knowledge of the fabric were generally able to gain at least 1 mark. The second mark was more elusive and references to the material's use on stage were seen less often.

The most common response seen was that the material was 'lightweight' which correctly gave an obvious property of muslin, gaining many candidates 1 mark. This again proved to be not well justified in relation to the use of the fabric as an alternative to the prototype.

- (ii) Muslin was used as an alternative to calico for this prototype.
Explain **one** reason why muslin would be a suitable alternative.

(2)

It is a lighter fabric to use. This means it the prototype
if for a much more delicate piece of clothing it is more
suitable for that design and will be a more accurate representation
of what the final design could look like



ResultsPlus Examiner Comments

The candidate responds in a way that shows their knowledge of not only the property of the fabric but also the reason for its choice, for example as a 'delicate piece of clothing'. They then go on to say why it should be used as an 'accurate representation' of the final design. This well justified response gained the full 2 marks. Sadly, responses which did not expand on why muslin was either 'similar' to calico or mentioned no comparison to muslin at all, were often seen, gaining no marks.

Question 11 (b) (iii)

This question was about the attributes of viscose and candidates seemed to be knowledgeable about some aspects and generally scored at least 1 mark.

The most common of viscose's regenerated properties given by candidates were absorbency and its ability to be comfortable. Candidates should try to vary the range of properties learnt as the ones that are similar or closely linked can often be grouped together.

(iii) The theatrical company has decided to make its performance costumes out of viscose.

State **two** advantages of using viscose for theatrical costumes.

(2)

- 1 *It is soft, so will be comfortable to wear*
- 2 *It drapes well & so will look aesthetically pleasing*



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Examiner Comments

As seen in this example the candidate is able to give two correct properties from different aspects of the mark scheme, 'soft' and 'draping,' gaining the full 2 marks. As 'breathable' and 'cool' are all from the same choice range dealing with comfort, many candidates would have benefitted from selecting an option that was not so similar to produce the same assessment response.



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Examiner Tip

Try to learn at least two advantages & disadvantages of the fibres in the specification as this can help to give full rounded responses.

Question 11 (b) (iv)

Linked to the understanding of a fibre, this question asked candidates to go more in depth than the previous 11 (b) (ii) where they just had to name the advantages of viscose. The overall outcome tended to show less confidence when asked to explain the advantages or disadvantages of a fibre.

The theatrical costume theme continued here and as candidates' responses were compiled the trend to generalise and mention the ability of viscose to be recycled was seen often.

(iv) Explain **one** disadvantage of using viscose for theatrical costumes.

(2)

Its not very crease resistant, so it would have to be ironed before shows which could cause extra work for the company.



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Examiner Comments

Here the candidate creates a clear picture of the detrimental effect that the lack of 'crease resistance' can bring to the workload of the theatrical company. Other responses seen were frequently about the lack of durability that the costumes would have.



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Examiner Tip

Do not rely on gaining marks from generalisations about the environment that do not relate to the specific circumstance of the question.

Question 11 (c) (iii)

The quality checks involving interfacing presented a varied range of responses. The more successful responses covered the application (fusing, sewing) or the cutting and positioning of the interfacing. The least successful candidates focused solely on the collar as a finished product.

This question was not about the collar in use and as such those candidates that spoke of its comfort on stage or the use of the collar in general gained no marks. Reading the question and understanding what is being asked of you has always been a key first step to a good response.

(iii) The theatrical company costumes all have collars. Interfacing is to be added to the collars.

State **two** quality control checks involving interfacing that can be carried out on the collars during manufacture. Justify your reasoning.

(4)

Quality control check

Ironed on the right side

Justification

If ironed on the side with the glue, the glue will stick to ^{the iron} and ruin the iron.

Quality control check

Iron it to the garment before cutting it.

Justification

Ensures that the collar is fully interfaced everywhere



ResultsPlus Examiner Comments

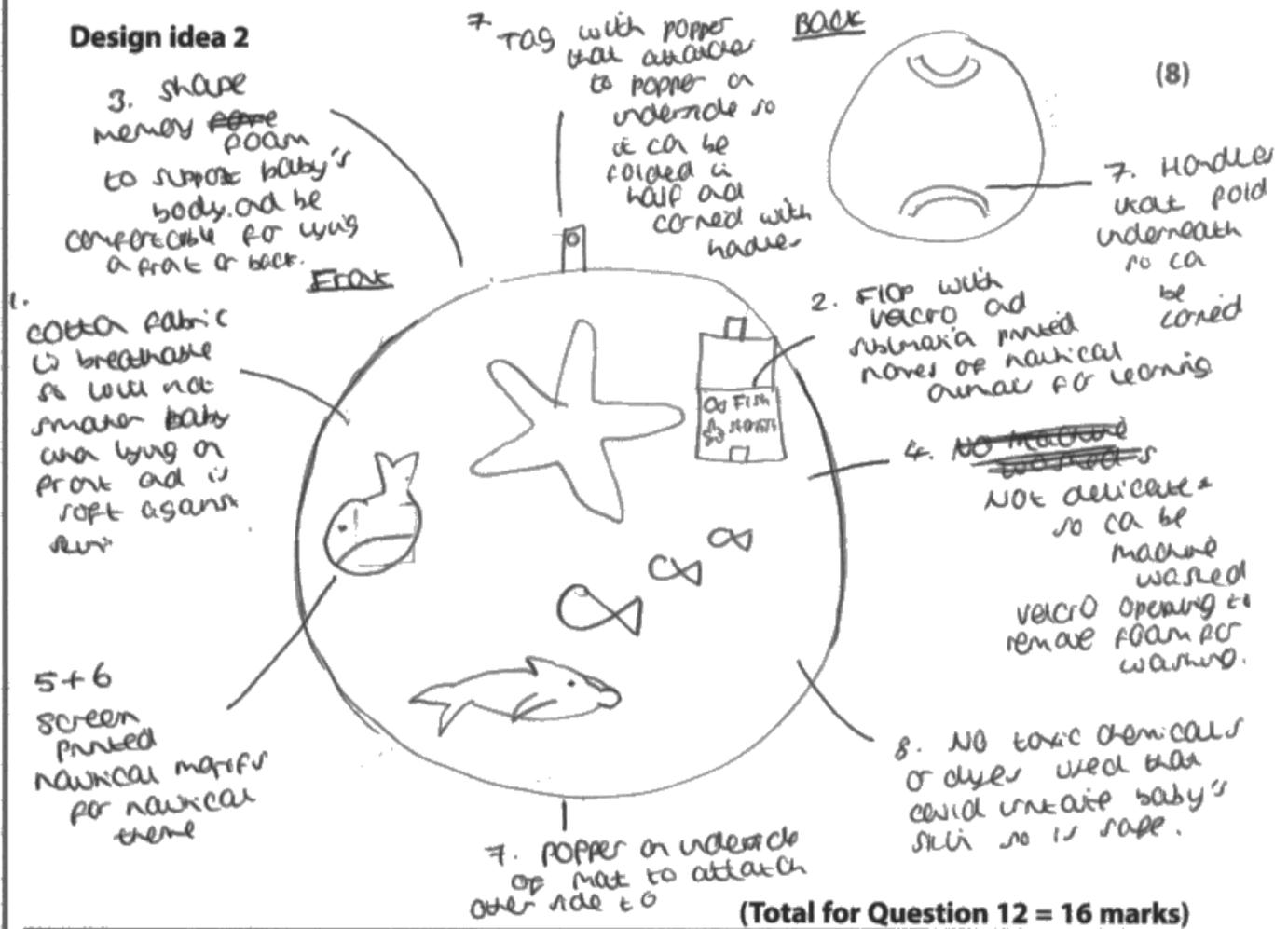
The candidate has good subject knowledge based on a practical approach. They know what fusible interfacing 'glue' is and they understand that it should only be applied to the fabric on one side ('ironed on the right side') providing a linked justification of the effect that doing the opposite would have on the iron, gaining 2 marks. The next comment is very clear but it is repetitive of the first point and its justification lacks the detail needed to show a full understanding of the implication of not having a full coverage of interfacing on the collar, thereby gaining no extra marks.



ResultsPlus Examiner Tip

It would have been helpful if the candidate could have shown a second point that was different from the first, for example considering the weight or structure which would be best to match the fabric of the collar.

Design idea 2



ResultsPlus Examiner Comments

This candidate presents numbers which effectively aim to take the place of the specification point and reduces the need for additional writing that it generates. This candidate gained 7/8 for the first design and 6/8 for the second. Non creditable responses to the 'suitable for babies lying on their front and back' specification point 1 was seen in both design 1 and 2, with the nautical theme being used for both specification points 2 and 5 in the second design. Using the same point for multiple justifications was also a way in which marks could not be given, as the same information presented in a different way could not be awarded a mark twice. This was often the case with specification point 2 'be educational' and specification point 5 'have a visually recognisable theme'.



ResultsPlus Examiner Tip

Candidates must think carefully in order to support the information they provide with a separate example and reason for each. It is also worth noting that candidates are expected to show technical understanding of some specification points, such as the 'be easy to care for' specification where it is not enough to say that polyester is easy to care for without adding why. Candidates should write a confirming annotation about every specification point when doing design practice and ensure that they explain 'how' it meets the specific point.

Question 13 (a) (i)

This question related to the suitability (or as with 13 (a) (ii) the unsuitability) of the choice of fastening for a wheelchair-bound person. Where many candidates were able to name one of the correct fastenings with a suitable justification gaining the full 2 marks, a few repeated the wording from the question 'it is easy to put on and take off' and used that instead of their own justification.

The most popular responses seen for suitable fastenings were Velcro and poppers along with the 'easy to open and close type' as a valid justification. The majority of candidates could state at least 1 appropriate fastening to gain 1 mark; however 2 full marks were often given.

13 (a) A pair of trousers has been designed for a wheelchair-bound person with a disability. A zip has been used in the waistband to make the trousers easy to put on and take off.

(i) Give **one** other suitable textile fastening to use in these trousers. Justify your answer.

(2)

Fastening

~~zip~~ poppers

Justification

because it is easy to undo and can be done quickly & efficiently, and is secure.



ResultsPlus

Examiner Comments

The example here shows a correct characteristic of poppers as well as the benefits of using them for them for the consumer. Terms such as being 'secure' are quite important in this situation and add value to the statement. Less effective comments described elastic as a suitable fastening in this position.

Question 13 (b)

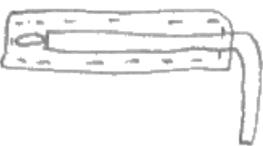
This question referred to the description of one method of inserting elastic around the waist of the trousers worn by the wheel-chair bound person. It was generally well answered, placing many candidates in the 2-3 mark range.

In order to gain the full 4 marks candidates needed to make sure that they covered parts from a range of the process that could bring the outcome to completion, and not just a lot of detail about one part in particular, for example forming the casing.

(b) Using notes and sketches, describe **one** method of inserting elastic around the waist of the trousers. Consider quality control.

(4)

1.  make sure that your elastic is ~~the~~ ~~3/4~~ ~~of~~ the length of the waist. Then add a safety pin to the end of the elastic and thread it through the waist.

2.  Keep threading the elastic through until you reach the end, then sew the ends onto the waist fabric and close the waist.

3. Finish off the waist by ~~to~~ either overlocking it ~~of~~ or with a normal seam.



ResultsPlus Examiner Comments

This candidate gives 3 different stages, of elastic length, using a tool to pass the elastic through and a finishing step, to gain 3 marks. Some good practice was seen in response to this question with many candidates able to use the correct terminology when describing the steps to insertion such as, 'making a casing'. The least successful part of the response was that of quality control.



ResultsPlus Examiner Tip

The quality control explanations tended to be weak, often giving instructions, advice or asking a question, rather than giving a control check with a method/ equipment to test it with and what to do if the initial task attempted was unsuccessful.

Question 13 (d)

The ability to compare the products within the set criteria was sometimes approached by means of a table. A written communication method would be more suitable, as basic grammatical skills were not evident in most cases.

Viewing the products as a whole with linked fibre and fabric properties would also be beneficial to candidates, as for example when looking at the knitted close fit trousers. The level of comfort is far different than that of a woven tightly fitted one yet the isolation of the features in the responses sometimes meant that this overall picture was overlooked.

Evaluate Product A against Product B in terms of function and user requirements.

(6)

Product A has an elasticated waist band which sits on the waist, as it is elasticated the wheelchair user will not feel too restrained when wearing the trousers as the elastic moves adjusts to the way the body is sitting and does not get too tight, Product B has a belted waist which may feel a little tight around the users waist unless they adjust each time they felt uncomfortable which may be tricky for them to do themselves.

The style of product A and B are quite different as product A is a simple style as it is fairly close fitting and the legs of the garment would not ~~not~~ interfere with the wheelchair wheels as they move which could happen to product B as they the leg of the garment gets wider towards the users feet which could get caught between the wheels and cause an accident.

Product A has simple pockets which can fit in smaller items if the user needs to ~~to~~ similarly to product B although product B has rivets on the pockets which may dig in to the users skin causing discomfort when they are in their wheelchair, as well as this the garment also has back pockets with rivets which the user will struggle to reach and the rivets would be pushing against the back of the chair forcing them to dig in even more.

Product A has cotton fabric which is **(Total for Question 13 = 16 marks)**
soft and absorbent which would be useful throughout the day, it is also knitted fabric meaning it has stretch which will make it feel looser on the skin. Whereas product B is acrylic which can feel itchy on the skin and can make the user very hot.

Overall product A is better suited for the user.



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Examiner Comments

Where candidates were successful, as in this example, they were able to clearly state the element that gave the benefit with a reasoned opinion of why that would be an advantage to the user. They would then find a comparable position or use on the other product to comment on in the same way. This is evident from their description of why elastic would be used as it would 'not feel too restrained' and would 'adjust to the way the body is sitting'. This was compared to the difficulty, lack of independence and continual adjustment needed when wearing a belt. As this was done throughout this question this candidate was awarded the full 6 marks. In contrast, those less successful candidates who performance sat in the lowest band usually knew elastic around the waist would be 'comfortable' but did not give a reason why and would often compare this to the belt being 'uncomfortable' with no further explanation.



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Examiner Tip

It is important for candidates to note that the information is not always contained in the annotation. Many missed features such as the front pockets on A could have expanded the range of points made by candidates.

Question 14 (a) (i)

Candidates were expected to know two risks associated with the use of dyes. Many were able to provide one risk only, often repeating the same response in a slightly different way.

This proved to be a very popular question, with few blank spaces seen. Weaker candidates tended to refer to the use of dyes on clothes when worn by the consumer.

14 (a) (i) State **two** risks associated with the use of dyes.

(2)

1 it can stain your clothing

2 could irritate your hands



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As the question asked candidates to state two risks, this candidate fulfils the criteria with their association to 'clothing' worn and 'irritation' of hands, and was therefore awarded full marks. Some of the less successful candidates would generalise and use statements like it would be 'unsafe' but not go into detail about this.

Question 14 (a) (ii)

As this question followed on from 14 (a) (i) responses needed to identify an appropriate control measure.

The requirements for a successful response to this question were to identify 'what' could be used to minimise the risk and 'why' it was the most suitable measure for the context stated. Occasionally candidates would gain the full 2 marks although more often they would give a suitable risk without a description which correlated to the first point identified.

(ii) Describe **one** control measure used to minimise these risks.

(2)

wear gloves and a face mask to
avoid the skin coming into contact with
the dyes and the mask to minimise the
smell of the dyes inhaled.



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Examiner Comments

This candidate identifies two measures instead of the one requested. The understanding of the need for a 'face mask' was the first correct point and this was correctly matched to the reduction of 'the dyes inhaled' for the second, giving the candidate the full 2 marks available.

Question 14 (b)

It was evident that candidates either understood this question or were very unclear about what they should be responding to. This did show that some were not aware of the stages in which cotton is processed as the common incorrect response seen was that to do with the cleaning and scouring stages of production. It was encouraging to see candidates using correct terminology in this question such as 'shrinkage' and removal of a 'finish', a few even stating what type of finish could be found such as 'wax'. The most common incorrect response given was that of the cotton being infested with bugs or the removal of dirt from the seeds.

Some candidates had a good working knowledge of the disadvantages of manufacturing from unwashed cotton or the requirement to remove finishes before preparing to add colour. These were noticeably the most popular from the correct responses. To stop the transference of excess dyes was the least seen response but when used candidates often noted that it would protect furniture being damaged. One of the key words to pick up here in this question was 'garment manufacture' as this alluded to the stage at which the cotton existed.

(b) Explain why cotton should be washed before garment manufacture.

(2)

It should be washed because the cotton changes shape when washed and it would be dirty from when they collected it.



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Here the candidate uses straightforward language to show they understand that the cotton would shrink. Words such as 'shape' or 'size' were acceptable when the meaning was clear that they knew it was a disadvantage. Unfortunately, this candidate did not match their first point with what the outcome might be 'after' manufacture but goes on to raise a different point that is incorrect and not supported. This gained them 1 out of the 2 marks available.

Question 14 (c)

This question presented an encouraging level of feedback with no blank spaces seen. Candidates were generally able to gain the full marks available and were knowledgeable about the disadvantage of lay planning checked fabric. Candidates who gave a higher order response would compare it to cotton and both points of view were given. Subject specific words such as 'nap' were also seen. This shows that good practice with acquainting candidates in this topic is happening across centres.

From the information provided by candidates it was clear that an encouraging amount of them had a good grasp of why lay planning was used and what effected its productivity. The most common least successful responses mentioned it being harder to see lay planning because the pattern got in the way or was a distraction.

(c) Give **one** disadvantage of lay planning on checked fabric compared to plain fabric.

(1)

There is a lot of product wasted as the patterns to match and line up meaning big gaps when it comes to lay planning the fabric.



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Key words such as 'directional laying' and 'matching' were frequently used in answer to this question, immediately displaying the candidates' familiarity with the terms. The disadvantage mentioned of 'waste' was one of the most popular correct answers. This candidate clearly demonstrates more than enough knowledge for the full 1 mark as their full explanation of the disadvantage mentions the need to 'match' and 'line up'.

Question 14 (d) (ii)

The familiar information of accuracy, time efficiency and lack of human error all came up here and was used to good effect to gain 1 mark. The second mark was less well considered and many candidates were not ready to give a response that was in the context of how CNC machinery could be beneficial. This question was not to do with buttons, however, many candidates chose to respond in this way which gained them no marks.

Candidates should be acutely aware of the function that any computer controlled machinery is being asked to do as that can then be related to how the computer enhances the functions. As in the case of the buttonholes using generalisations of 'faster' as an adequate description of a benefit does not give enough information to be worthy of credit.

(ii) Describe **one** benefit of using computer numerically controlled (CNC) machinery when producing buttonholes for a large batch of shirts.

(2)

There is no risk of human error as the machine is set to one program and can only make a specific button hole. This means all button holes will be identical even on large batches of shirts.



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Examiner Comments

Programming is a key function of CNC machinery that allows it to function independently and well. This candidate has provided a well-constructed response that notes this along with why identical buttonholes are produced.

Question 14 (e)

Candidates should continue to keep abreast of the new ways designers and companies are finding to deal with the problem of emissions. This could be a useful presentation task or classroom discussion as a means to engage candidates on specific issues beyond the 6 Rs that effect modern choices. Although it is necessary to link in the technological and other factors that arise from this issue, it was inspiring to see understanding of the problem in general, demonstrating good transferable knowledge by candidates.

The responses to this 6-mark question, which (as with 13 (d)) included the asterisked quality of written communication component, did not on the whole provide many marks in the high band (5-6 mark) category. Many of the candidates gaining lower marks failed to consider the issues linked with emissions and instead discussed waste in general. Less blank pages were seen at the end of the paper with a high percentage of candidates writing something worthy of credit.

***(e) Reducing transportation is one method of reducing emissions from textile manufacturing.**

Discuss other ways that textile manufacturers can reduce emissions.

(6)

Textile manufacturers can ~~by~~ reduce emissions by signing up to schemes to become carbon neutral such as the Kyoto protocol as the company will receive benefits if they stay within their allowed limit. Also the company could try and produce more materials on site so that long distances don't need to be covered to source materials. In addition to this, the company could process and reuse any waste that they may have produced during the process of manufacturing. For instance they could clean any waste dyes and reuse them again so that no emissions don't need to be released when transporting new dyes. The company could also generate their own electricity rather than using non-renewable resources such as crude oil such as using wind turbines.

or solar panels to heat water. Lastly, instead of making every product in one factory, more could be created abroad so that less air miles are required during the distribution of that product.



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Examiner Comments

Kyoto Protocol provides a good start to the text, however the repetition of the question paper does not show that the candidate read or understand the focus of the question. However, they recapture their thread as they begin to discuss the 'process' and 'reuse' of waste and then touch on the example of 'clean waste dyes'. This shows some basic knowledge that is not fully detailed enough (as they do not mention 'how' this could be done) to be considered in the high band. Another good point is made when they consider alternative forms of energy, such as solar panels. This demonstration of knowledge was in the mid-band and gained the candidate 4 marks.

The majority of students addressed alternative sources of energy and applying less chemical finishes to fabrics. Less effective responses focused on waste around recycling without considering emissions and mentioned making everything by hand, using less machinery, turning off machinery and making simplified products.

Paper summary

Based on their performance on this paper, candidates are offered the following advice:

- Candidates should read the wording of the questions carefully.
- Candidates should identify the specification point they are alluding to and give reasons linked to it which confirm that they have met that point. In order to secure marks, these annotations should not be cumbersome or take the place of good visual description but explain the suitability of the candidates' choices.
- Candidates should relate their workshop practices to industrial alternatives and use in the wider world. Examining products by hand, where possible, still remains an effective tool for learning. This gives candidates the opportunity to learn through touch, regarding the practicalities of the tasks that went into the manufacturing of textile products.
- Candidates should make themselves familiar with the names of as many different processes as possible such as quilting, making a pocket or button hole, whenever possible through short practical tasks.
- Candidates should practise constructing samples and examining products to provide a foundation for their theory knowledge.
- Candidates should make certain that their written communication is well structured and endeavour to limit their use of extra sheets as the booklet provides enough space appropriate to the question type.
- Candidates should ensure that all written and drawn work is legible. Only the use of the implements mentioned on the front of the examination booklet should be used and never that of felt nibs which do not scan well. Writing should be clear and legible.
- Candidates should time their answers carefully, pacing themselves throughout each section, ensuring that all areas of the paper are attempted even in a fundamental form.

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